

**MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY
OPERATING PERMIT TECHNICAL REVIEW DOCUMENT**

**Permitting and Compliance Division
1520 E. Sixth Avenue
P.O. Box 200901
Helena, Montana 59620-0901**

Montola - a Division of Sustainable Systems, LLC
SW¼ of the SE¼ of Section 28, Township 28 North, Range 56 East, in Roosevelt County
P.O. Box 478
Culbertson, MT 59218

The following table summarizes the air quality programs testing, monitoring, and reporting requirements applicable to this facility.

Facility Compliance Requirements	Yes	No	Comments
Source Tests Required	X		Method 9 and 5
Ambient Monitoring Required		X	
COMS Required		X	
CEMS Required		X	
Schedule of Compliance Required		X	
Annual Compliance Certification and Semiannual Reporting Required	X		
Monthly Reporting Required		X	
Quarterly Reporting Required		X	
Applicable Air Quality Programs			
ARM Subchapter 7 Preconstruction Permitting	X		Permit #2949-02
New Source Performance Standards (NSPS)		X	
National Emission Standards for Hazardous Air Pollutants (NESHAPS)	X		40 CFR 61, Subpart M
Maximum Achievable Control Technology (MACT)	X		40 CFR 63, Subpart GGGG
Major New Source Review (NSR)	X		
Prevention of Significant Deterioration (PSD)	X		
Risk Management Plan Required (RMP)		X	
Acid Rain Title IV		X	
State Implementation Plan (SIP)		X	
Compliance Assurance Monitoring (CAM)		X	

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SECTION I. GENERAL INFORMATION

A. Purpose

This document establishes the basis for the decisions made regarding the applicable requirements, monitoring plan, and compliance status of emission units affected by the operating permit proposed for this facility. The document is intended for reference during review of the proposed permit by the United States Environmental Protection Agency (EPA) and the public. It is also intended to provide background information not included in the operating permit and to document issues that may become important during modifications or renewals of the permit. Conclusions in this document are based on information provided in the original application submitted by SVO Specialty Products, Inc. on June 11, 1996, additional information submitted by Montola Growers, Inc. on June 30, 1997 and March 20, 1998, and a renewal application submitted by Montola on September 23, 2003. Montola, a division of Sustainable Systems, LLC (Montola) submitted a Significant Modification permit application on August 17, 2006.

B. Facility Location

Montola owns and operates the vegetable oil processing facility located in the SW¹/₄ of the SE¹/₄ of Section 28, Township 28 North, Range 56 East, in Roosevelt County, Montana. Roosevelt County is designated as an Unclassifiable/attainment area for National Ambient Air Quality Standards (NAAQS) for all criteria pollutants. The facility has a total property area of 54.45 acres.

C. Facility Background Information

Montana Air Quality Permit

Montana Air Quality Permit (MAQP) #2949-00 was issued to SVO Specialty Products, Inc. on April 6, 1997, to operate the vegetable oil processing facility in Culbertson, Montana.

On June 18, 1997, **MAQP #2949-01** was issued to Montola Growers, Inc. The Department of Environmental Quality (Department) received a request that Permit #2949-00 be modified to reflect a change in the ownership of the facility from SVO Specialty Products, Inc. to Sheridan Electric Cooperative. The facility operated under the name Montola Growers, Inc.

Title V Operating Permit

Title V Operating Permit #OP2949-00 was issued final and effective on January 1, 1999.

The Department received a request from Montola on September 23, 2003, for the renewal of Operating Permit #OP2949-00. The Department updated the permit with respect to the facility's replacement of the Bethlehem Boiler with a Hurst boiler. Operating Permit #OP2949-00 contained statements requiring Montola to use pipeline-quality natural gas as a method of monitoring compliance. However, natural gas is not currently piped to the facility and therefore Montola uses propane gas for operation of the facility. This change was reflected in the renewal. In addition, the Department updated the permit language and format. **Operating Permit #OP2949-01** replaced Operating Permit #OP2949-00.

D. Current Permit Action

On December 26, 2005, the Department received a request to transfer the permit ownership from Sheridan Electric Co-op, Inc. to Sustainable Systems, LLC. The Culbertson facility will remain under the name of Montola, as a division of the company. On June 15, 2006, the Department received a concurrent MAQP modification and Title V significant modification application for the

replacement of the existing 300-ton per day (TPD) oilseed extraction equipment with a new 600-TPD extractor, desolventizer/toaster-dryer/cooler (DTDC), and distillation system. The facility will become a major source under the Prevention of Significant Deterioration (PSD) program, because the potential to emit exceeds 250 tons per year (TPY) of Volatile Organic Compound (VOC). The application was deemed complete on August 17, 2006. **MAQP #2949-02** replaces MAQP #2949-01. **Operating Permit #OP2949-02** replaces Operating Permit #OP2949-01.

E. Taking and Damaging Analysis

HB 311, the Montana Private Property Assessment Act, requires analysis of every proposed state agency administrative rule, policy, permit condition or permit denial, pertaining to an environmental matter, to determine whether the state action constitutes a taking or damaging of private real property that requires compensation under the Montana or U.S. Constitution. As part of issuing an operating permit, the Department is required to complete a Taking and Damaging Checklist. As required by 2-10-101 through 105, MCA, the Department has conducted a private property taking and damaging assessment and has determined there are no taking or damaging implications. The checklist was completed on September 28, 2006 for issuance of Permit #OP2949-02.

F. Compliance Designation

The Montola vegetable oil processing facility was last inspected on June 24, 2005, and was found to be in compliance with the conditions in MAQP #2949-01 and Title V Operating Permit #OP2949-00. The facility was also inspected on February 10, 1999, June 14, 2000, June 12, 2001, September 18, 2002, and September 3, 2003. There is no record of any violations of the conditions of the facility's permit.

SECTION II. SUMMARY OF EMISSION UNITS

A. Facility Process Description

Montola processes oilseeds: primarily sunflower, canola, and safflower. The process includes seed cleaning, conditioning, crushing, oil extraction, meal grinding, and storage, in addition to vegetable oil processing. Vegetable oil processing includes refining, bleaching, de-waxing/winterizing, and deodorization.

The oilseeds used as raw material feedstock are received primarily by trucks, but are also received by railcar. The oilseeds are sampled and analyzed for moisture content, foreign matter and test weight. The oilseeds are weighed and conveyed to large metal tanks for storage prior to processing. Unloading of oilseed trucks is accomplished under building cover with bucket elevators and covered conveying systems. Railcar unloading is accomplished by a fixed covered conveying system.

The oilseeds are removed from the storage bins and cleaned of foreign material prior to conditioning. Screen cleaners are used to remove foreign materials such as sticks, stems, pods, tramp metal, sand, and dirt. An aspiration system is used to remove the empty seeds and light material from the product stream.

Next, the oilseeds are conveyed to a flaker where smooth cylindrical rolls press the seeds into smooth “flakes” which vary in thickness from approximately 0.010 to 0.020 inches. Flaking allows the oilseed oil cells to be exposed and the oil to be more easily extracted. The flakes are conveyed to the conditioning area where they are put through a stacked cooker and are heated to “condition” them. Physical oil extraction is then performed through the use of expellers. An expeller is a tapered screw press that removes oil through a mechanical pressing action. All flaking, conditioning, and expeller pressing steps are performed within the Mill building on the plant site.

The expeller cake (containing approximately 15% to 20% vegetable oil) is conveyed to the Solvent Extraction Process. This process consists of washing the oil from the expeller cake with hexane in a deep bed extractor. The solvent is evaporated from both the solvent/oil mixture and the solvent-laden, defatted flakes. The oil is desolventized by exposing the solvent/oil mixture to steam. Then the solvent is condensed, separated from the steam condensate, and reused. Residual hexane vapor not condensed is absorbed with a mineral oil scrubber, separated from the mineral oil and steam condensate, and reused in the extraction process.

The desolventized oil, called crude solvent vegetable oil, is pumped to a metering tank before being pumped to a large storage tank. All steps of the solvent extraction process are performed within the solvent plant building. All vegetable oil storage tanks have fixed roofs and are located within a diked retaining area. The flakes leaving the extractor contain up to 35 to 40% solvent and must be desolventized before use. Solvent-laden flakes are desolventized by conventional desolventization. This takes place in a desolventizer-toaster, where both contact and non-contact steam area used to evaporate the hexane. In addition, the contact steam “toasts” the flakes, making them more usable for animal feeds. The desolventized and toasted flakes then pass to a cooler, where ambient air is used to reduce the temperature of the flakes. The desolventized flakes are ground for use as meal. Meal is conveyed to fixed roof storage. Meal truck loadout is accomplished under building cover.

Refining, bleaching, dewaxing/winterizing, and deodorization of vegetable oil is performed within the refinery and dewax refinery buildings. Refining is the neutralization of the free fatty acids (FFA) in the vegetable oil through use of a caustic solution, bleaching is the color removal from the oil through use of a chilling and filtering process, and deodorization is the final processing step that removes any remaining impurities, odors, flavors, and FFA. Byproducts produced in the refinery including soapstock, spent bleaching earth, dewaxing foots, and deodorizer distillate.

B. Emission Units and Pollution Control Device Identification

Emissions Unit ID	Description	Pollution Control Device/Practice
EU001	Eclipse Boiler (500 hp)	No controls
EU002	Hurst Boiler (500 hp)	No controls
EU003	Dowtherm Boiler (125 hp)	No controls
EU004	Oilseed Extractor	No Controls
EU005	Desolventizer/Toaster-Dryer/Cooler (DTDC)	Deck Cyclones
EU006	Distillation System	No Controls
EU007	Mineral Oil Absorption Exhaust	Mineral Oil Scrubber
EU008	Meal Cooler Exhaust	No controls
EU009	Hexane Storage Tank	No controls
EU010	Solvent Metering Tank #3	No controls
EU011	Solvent Metering Tank #4	No controls
EU012	Hexane Purge Fan	No controls
EU013	Meal Grinder Discharge	Carter Day Cyclone
EU014	Seed Cleaner Discharge	Carter Day Cyclone
EU015	Railcar and Truck Meal Loading	Enclosure/Boots

C. Categorically Insignificant Sources/Activities

The following table of insignificant sources and/or activities were provided by Montola. Because there are no requirements to update such a list, the emission units and/or activities may change from those specified in the table.

These emitting units are considered insignificant because their potential emissions are less than 5 TPY and they have no applicable requirements other than those generally applicable to the entire facility.

Emissions Unit ID	Description
IEU01	Crystallizer/Precoat Tank Vent
IEU02	Railcar and Truck Oilseed Unloading
IEU03	Boiler Blowdowns
IEU04	Air Exchange Ventilation System
IEU05	Refinery Building Exhaust
IEU06	Refinery Boiler Building Exhaust
IEU07	Dewaxing Boiler Building Exhaust
IEU08	Hotwells
IEU09	Office furnace and Water Heater Exhaust
IEU10	Sewer Manholes
IEU11	Refinery and Solvent Plant Waste Water Lift Stations
IEU12	Sanitary Sewer Lift Station
IEU13	Propane Truck Venting and Loading
IEU14	Space Heater
IEU17	Meal Silo #1
IEU18	Meal Silo #2
IEU19	Meal Silo #3
IEU20	Meal Silo #4
IEU21	Meal Warehouse #6
IEU22	Meal Warehouse #7
IEU23	Cooling Tower
IEU24	Expeller Steam Exhaust
IEU25	Cooker Exhaust
IEU26	Deodorizer Vacuum Pump Discharge
IEU27	Vacuum Bleach Tank Vacuum Pump
IEU28	Refinery Wastewater Lift Station
IEU29	Sanitary Sewer Lift Station
IEU30	Solvent Plant Wastewater Lift Station
IEU31	Filter foot/Spent Bleaching Earth Disposal Area
IEU32	Seed Storage Bins

Emissions Unit ID	Description
IEU33	Bucket Elevators
IEU34	Conveying Systems
IEU35	Containment Pond
IEU36	Wastewater Sump

SECTION III. PERMIT CONDITIONS

A. Emission Limits and Standards

There are no emission limits or standards identified in this permit that were not previously applicable to the facility. All of the emission limits are listed in the operating permit along with the applicable rule citation for each limit.

B. Monitoring Requirements

ARM 17.8.1212(1) requires that all monitoring and analysis procedures or test methods required under applicable requirements are contained in operating permits. In addition, when the applicable requirement does not require periodic testing or monitoring, periodic monitoring must be prescribed that is sufficient to yield reliable data from the relevant time period that is representative of the source's compliance with the permit.

The requirements for testing, monitoring, recordkeeping, reporting, and compliance certification sufficient to assure compliance does not require the permit to impose the same level of rigor for all emission units. Furthermore, it does not require extensive testing or monitoring to assure compliance with the applicable requirements for emission units that do not have significant potential to violate emission limitations or other requirements under normal operating conditions. When compliance with the underlying applicable requirement for a insignificant emissions unit is not threatened by lack of regular monitoring and when periodic testing or monitoring is not otherwise required by the applicable requirement, the status quo (**i.e., no monitoring**) will meet the requirements of ARM 17.8.1212(1). Therefore, the permit does not include monitoring for insignificant emission units.

The permit includes periodic monitoring or recordkeeping for each applicable requirement. The information obtained from the monitoring and recordkeeping will be used by the permittee to periodically certify compliance with the emission limits and standards. However, the Department may request additional testing to determine compliance with the emission limits and standards.

C. Test Methods and Procedures

The operating permit may not require testing for all sources if routine monitoring is used to determine compliance, but the Department has the authority to require testing if deemed necessary to determine compliance with an emission limit or standard. In addition, the permittee may elect to voluntarily conduct compliance testing to confirm its compliance status.

Montola is not required to routinely test any of the three boilers used at this facility. All 3 boilers are required to use Propane Gas continuously; therefore, they are not likely to exceed the particulate limit or the sulfur compounds limit.

The emitting units that make up the solvent extraction system have very little particulate exhaust and are not likely to exceed the particulate limit or the opacity limit. Therefore, they are only required to test these sources at the Department's request.

Montola is required to conduct monthly visual surveys on the meal grinder cyclone discharge, both seed cleaner cyclone discharges, and the meal dump scale cyclone discharge to maintain compliance with the opacity limits. In addition, a Method 5 test as required by the Department will monitor compliance with the particulate limit.

Montola is required to keep a maintenance log as a means of compliance with permit conditions for the Railcar and Truck Meal Loading Station. In addition to the maintenance log, this source is required to operate and maintain all existing enclosures as a means of pollution control.

D. Recordkeeping Requirements

The permittee is required to keep all records listed in the operating permit as a permanent business record for at least 5 years following the date of the generation of the record.

E. Reporting Requirements

Reporting requirements are included in the permit for each emissions unit and Section V of the operating permit "General Conditions" explains the reporting requirements. However, the permittee is required to submit semi-annual and annual monitoring reports to the Department and to annually certify compliance with the applicable requirements contained in the permit. The reports must include a list of all emission limit and monitoring deviations, the reason for any deviation, and the corrective action taken as a result of any deviation.

F. Hazardous Air Pollutants

Montola is a major source of Hazardous Air Pollutant (HAP) emissions (specifically hexane). The total HAPs are primarily fugitive emissions from the solvent recovery process in the oil refinery portion of this process. Montola is subject to 40 CFR 63, Subpart GGGG - Oil Extraction for Vegetable Oil Production that was promulgated on April 12, 2001. The original compliance date was April 12, 2004, however, Montola filed for an extension which was granted by the Department for a one - year period. Following that extension, Montola changed ownership and modifications to the facility have been made to enable Montola to be in compliance with Subpart GGGG. Montola was required to be in compliance with Subpart GGGG as of April 12, 2005.

G. Public Notice

In accordance with ARM 17.8.1232, a public notice was published in the *Billings Gazette* newspaper on or before July 30, 2007. The Department provided a 30-day public comment period on the draft operating permit from July 30, 2007, to August 29, 2007. ARM 17.8.1232 requires the Department to keep a record of both comments and issues raised during the public participation process.

H. Draft Permit Comments

Summary of Permittee Comments

Permit Reference	Permittee Comment	Department Response
Section I General Information	Montola Growers, Inc. was used in the permit and is no longer in existence.	Current references to the company as Montola Growers Inc. were removed from the permit.
Section II Summary of Emission Units	The Hurst Boiler and Dowtherm Boiler were incorrectly categorized as Insignificant Emission Units.	The units were added to Section III.B with applicable requirements.
Section II Summary of Emission Units and Appendix A Insignificant Emission Units	The Containment Pond and Wastewater Sump were listed in both the Significant and Insignificant Units tables.	The Containment Pond and Wastewater Sump were removed from the Significant Emission Units table, along with the subsequent applicable requirements.

SECTION IV. NON-APPLICABLE REQUIREMENT ANALYSIS

Facility Wide

Pursuant to ARM 17.8.1221, Montola did not request a permit shield for any regulatory requirements and/or regulatory orders.

SECTION V. FUTURE PERMIT CONSIDERATIONS

A. MACT Standards

As of the proposed date of this permit, the Department is unaware of any future MACT Standards that may be promulgated that will affect this facility. The MACT Standard 40 CFR 63, Subpart GGGG does apply to the facility at this time.

B. NESHAP Standards

As of the proposed date of this permit, the Department is unaware of any future NESHAP Standards that may be promulgated that will affect this facility. NESHAP Standard 40 CFR 61, Subpart M does apply to the facility at this time.

C. NSPS Standards

As of the proposed date of this permit, the Department is unaware of any future NSPS Standards that may be promulgated that will affect this facility.

D. Risk Management Plan

As of the proposed date of this permit, this facility does not exceed the minimum threshold quantities for any regulated substance listed in 40 CFR 68.115 for any facility process. Consequently, this facility is not required to submit a Risk Management Plan.

If a facility has more than a threshold quantity of a regulated substance in a process, the facility must comply with 40 CFR 68 requirements no later than June 21, 1999; 3 years after the date on which a regulated substance is first listed under 40 CFR 68.130; or the date on which a regulated substance is first present in more than a threshold quantity in a process, whichever is later.